

REMARKS

Claims 63 – 123 are pending. In the Office Action dated January 27, 2010, Examiner Tran rejected claims 63 – 123 as allegedly failing to comply with the written description requirement; rejected claim 118 as allegedly being indefinite; objected to claim 117 under 37 CFR 1.75(c) as allegedly being in improper form; rejected claims 63 – 117 as allegedly being anticipated by U.S. Patent No. 5,323,322 to Mueller et al. (hereinafter, “Mueller”); and rejected claims 118 – 123 as allegedly being anticipated by U.S. Published Application No. US2001/0026239 to Fenton (hereinafter, “Fenton”). Applicants have amended claims 63, 80, 81, 87, 89, 91, 109, 117, 118, 120 and 122. Claims 80 and 87 were amended to correct typographical errors and claims 81, 89, 91, 109 and 117 were amended to place the claims in proper form, while claims 63, 118, 120 and 122 were amended for clarity and not intended to change the claim scope. Applicants previously canceled claims 1 – 62. By way of this amendment, no new matter has been added. At least for the reasons set forth below, Applicants respectfully traverse the foregoing rejections.

As Applicants’ remarks with respect to the Examiner’s rejections are sufficient to overcome these rejections, Applicants’ silence as to assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, motivation to combine references, assertions as to dependent claims, etc.) is not a concession by Applicants that such assertions are accurate or such requirements have been met, and Applicants reserve the right to analyze and dispute such assertions/requirements in the future. Further, for any instances in which the Examiner took Official Notice in the Office Action, Applicants expressly do not acquiesce to the taking of Official Notice, and respectfully request that the Examiner provide an affidavit to support the Official Notice taken in the next Office Action, as required by 37 CFR 1.104(d)(2) and MPEP § 2144.03. Applicants respectfully request reconsideration of the present application in view of the above amendment and the following remarks.

Claim Rejections – 35 U.S.C. § 112

Claims 63 – 123 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the Examiner alleged that the

specification does not explain the claimed recitation of a “second meteorological model” nor do the drawings indicate where a “second meteorological model” is illustrated. *See Office Action Page 2.* Applicants have amended claims 63, 118, and 122 to clarify that the second model is a meteorological model. Specifically, Applicants have amended claims 63, 118 and 122 to recite, in part, that “a second model, which is a meteorological model.” Support for the amendments can be found at least in paragraphs [0016], [0017], [0019], [0020], [0024], [0026], [0032], [0033], [0035], [0040], [0068], [0074], [0115], [0140], [0151] and [0155] to [0157] of the published application, as filed. Therefore, Applicants believe that the specification clearly defines the currently pending claim recitations. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections.

Claim 118 was rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Specifically, the Examiner alleged that item numbers 250, 275 and 280 were not listed in the drawings. Thus, Applicants have amended FIG. 2 to correct this discrepancy thereby rendering the rejection with respect to the item numbers moot. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

Claim Objection

Claim 117 was objected to under 37 C.F.R. § 1.75(c) as allegedly being in improper form. Specifically the Examiner alleged that claim 117 was multiply dependent. Applicants have amended claim 117 to place the claim in proper form under 37 CFR § 1.75(c). Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection.

Claim Rejections – 35 U.S.C. § 102

I. Mueller et al. (U.S. Patent No. 5,323,322)

Claims 63-117 were rejected under 35 U.S.C. § 102(b) as being anticipated by Mueller. Mueller is directed to a networked differential GPS system. *See Abstract.* Mueller discloses the nature of differential GPS (DGPS) as comparing two positions, a “position solution” that is determined by a GPS receiver and a known position of a reference station. *See Col. 2, line 67 to*

Col. 3, line 6. Mueller further discloses that the DGPS then calculates “[a] difference in the positions...” and that the “net difference ... is broadcast ... to a local group of GPS receivers for correction.” *See Col. 3, lines 2 – 6.* Thus, Mueller teaches that such a difference is known as a “pseudorange correction” (PRC), which is merely the construction and use of so-called iso-PRC contour maps that are analogous to isobar contours of a weather map. *See Col. 3, lines 57 – 58, Col. 4, lines 10 – 20, and Col. 12, lines 20 – 52.* However, this disclosure by Mueller fails to teach or suggest each recitation of the independent claims, as originally filed and amended.

For example, independent claim 63 now recites:

A method of obtaining tropospheric delay data for use in increasing the accuracy with which the location of a receiver in a global navigation satellite system (GNSS) can be determined, the method comprising the steps of:
generating a first set of approximate tropospheric delay values applicable to various receiver geographical locations from a first model at a location remote from said receiver;
generating a second set of accurate tropospheric delay values applicable to said various receiver geographical locations from a second model, which is a meteorological model, at a location remote from said receiver;
developing a set of tropospheric delay value modifications applicable to said first model so that together, said first model and said tropospheric delay value modifications can provide a set of tropospheric delay values substantially in agreement with said second set of accurate tropospheric delay values; and
communicating said set of tropospheric delay value modifications to said receiver.

Mueller fails to teach or suggest at least “generating a first set of approximate tropospheric delay values applicable to various receiver geographical locations from a first model at a location remote from said receiver” as recited in independent claim 63, as originally filed.

To the contrary, Mueller at most teaches calculating and communicating data that directly represents differences in position at a few points, that is, PRC relative to the tropospheric conditions surveyed at the GPS receiver’s permanent position. *See Col. 12, lines 27 – 43 and Col. 25 line 62 – Col. 26, line 19.* Thus, it is clear that the PRC are not “tropospheric delay values” and that the tropospheric conditions are not conditions “at a location remote from said receiver.” Therefore, because Mueller’s PRC is compared at different locations and the tropospheric conditions are surveyed at the GPS receiver’s permanent position, there is no disclosure of the step of “generating

... tropospheric delay values... at a location remote from said receiver” as recited within the context of claim 63 prior to this amendment. Accordingly, for at least this reason, Mueller fails to teach or suggest at least a step of “generating a first set of approximate tropospheric delay values applicable to various receiver geographical locations from a first model at a location remote from said receiver” as recited within the context of originally filed claim 63. For at least this reason, Applicants respectfully request reconsideration and withdrawal of the rejection.

Furthermore, Mueller fails to teach or suggest the additional step of “generating a second set of accurate tropospheric delay values...” since Mueller is concerned with generating pseudorange corrections, which are differential values of actual position calculations. Indeed, the Examiner cites in support of his rejection Col. 10, line 36, to Col. 11, line 42, however, at this cite Mueller discloses that tropospheric delay errors are specifically excluded from consideration. *See Col. 11, lines 23-25*. Specifically, in the Examiners referenced section Mueller discloses that “(The equation assumes that the ionospheric and tropospheric delay errors are removed at each of the reference stations).” Thus, Mueller *teaches away* from using the tropospheric delay model as such a position is incompatible with “generating a first set of ... tropospheric delay values...” and “generating a second set of ... tropospheric delay value.” Accordingly, for this additional reason, Applicants respectfully request reconsideration and withdrawal of the rejection.

Additionally, because Mueller fails to disclose generating first and second sets of tropospheric delay values, Mueller fails to disclose generating “a set of tropospheric delay value modifications”. Therefore, Mueller also fails to disclose the step of “developing a set of tropospheric delay value modifications applicable to said first model so that together, said first model and said tropospheric delay value modifications can provide a set of tropospheric delay values substantially in agreement with said second set of accurate tropospheric delay values” as recited within the context of claim 63.

Finally, Mueller fails to teach or suggest “communicating said set of tropospheric delay value modifications” because there is only disclosure of communicating the iso-PRC data.

Accordingly, for at least these reasons, Applicant respectfully requests reconsideration and withdrawal of the rejection.

Although patentably distinct, independent claim 117, as amended, is patentable for similar reasons. For example, claim 117 recites “a first set of approximate tropospheric delay values applicable to at least one remote receiver and a first model, the receivers are positioned at various geographical locations remote from the first model.” For reasons previously discussed, Mueller fails to teach or suggest at least this recitation of claim 117.

Dependent claims 64 – 116 are patentable at least by virtue of their dependence upon independent claim 63. Nevertheless, the dependent claims also recite patentable subject matter. Applicants reserve the right to present remarks in favor of the patentability of these dependent claims in future papers.

II. Fenton (U.S. Publication No. 2001/0026239 A1)

Claims 118 – 123 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Fenton. This disclosure by Fenton fails to teach or suggest each recitation of the independent claims.

Independent Claim 118

Independent claim 118 recites, in part, “receiving a set of tropospheric delay value modifications derived from a second model, which is a meteorological model.”

Fenton is directed to a time signal generation system that produces a reference time signal based on the signals transmitted by geostationary satellites. *See Abstract*. The receiver tracks the satellite signal directly and decodes the transmitted data including timing information, satellite orbital correction information and an ionospheric model, or table, transmitted by the satellite. *See Abstract*. The GPS receivers are relatively complex and often process both the L1 and L2 signals transmitted by the GPS satellites to determine accurate ionospheric delay information. *See Paragraph [0006]*. Additionally, Fenton teaches the use of a correction processor that calculates a Doppler correction value and provides a correction signal to a summation processor. *See Paragraph [0016]*. The summation processor combines the correction signal with the timing signal produced by the PRN code generator, to compensate for the ionospheric, tropospheric and propagation delays. *See Paragraph [0016]*. The correction processor determines the ionospheric and tropospheric delays by entering the table transmitted by the satellite. *See Paragraph [0017]*. Thus, Fenton is

primarily concerned with calculating “ionospheric delays” and tropospheric delays using stored values in a table. These such tables are well known within the art and appear to correlate with the known tropospheric delay compensation techniques that are acknowledged in the introductory portion of Applicants’ specification, which specifically mentions WASS. Indeed, WAAS is also mentioned in Fenton and is not the same as the step of “receiving a set of tropospheric delay value modifications derived from a second model, which is a meteorological model” as recited within the context of amended claim 118.

Therefore, Fenton fails to teach or suggest a method of reducing tropospheric delay errors in a global navigation satellite system comprising at least the steps of “generating a first set of approximate tropospheric delay values from a first model applicable to signals received from a plurality of satellites; receiving a set of tropospheric delay value modifications derived from a second model, which is a meteorological model,” because Fenton clearly teaches the use of values stored in a table and not “values from a first model applicable to signals received from a plurality of satellites” as described above. Accordingly, for at least this reason, Applicants respectfully request reconsideration and withdrawal of the rejection.

Additionally, it is noted that Applicants claim 118 clearly recites “receiving a set of tropospheric delay value modifications,” which is not the same as the delay values per se. This recitation is not disclosed within Fenton. Thus, since there is no disclosure in Fenton of “receiving a set of tropospheric delay modification value modifications”, there cannot be a disclosure of “correcting the first set of approximate tropospheric delay values” in a receiver at all, let alone correcting such approximate values using a received set of modification values. Therefore, for these additional reasons, Fenton fails to teach or suggest all of the recitations of claim 118 Fenton cannot anticipate claim 118. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

Independent Claims 120 and 122

While patentably distinct from independent claim 118, independent claims 120 and 122 are allowable over Fenton for similar reasons as described above regarding claim 118. For example, independent claim 120 similarly recites, in part, “means operable to *receive a set of tropospheric*

delay value modifications derived from meteorological data, means to *correct the first set of approximate tropospheric delay values* in accordance with the set of tropospheric delay value modifications” (emphasis added). Independent claim 122 similarly recites, in part, “wherein the satellite *receivers receives a set of tropospheric delay value modifications* derived from a second model, which is a meteorological model; and *corrects the first set of approximate tropospheric delay values* in accordance with the set of tropospheric delay value modifications” (emphasis added). As described above, Fenton fails to teach the above cited recitations. Independent claims 120 and 122 are therefore allowable over Fenton for at least this reason.

Dependent Claims 119, 121 and 123

Dependent claims 119, 121 and 123 are patentable at least by virtue of their dependence on independent claims 118, 120 and 122. Nevertheless, the dependent claims also recite patentable subject matter. Applicants reserve the right to present remarks in favor of the patentability of these dependent claims in future papers.

Conclusion

In view of the above amendment and remarks, the pending application is in condition for allowance. If, however, there are any outstanding issues that can be resolved by telephone conference, the Examiner is earnestly encouraged to telephone the undersigned representative.

It is believed no fees are due with this response. However, if any fees are required in connection with the filing of this paper that are not identified in any accompanying transmittal, permission is given to charge our Deposit Account No. 18-0013, under Order No. 66221-0053 from which the undersigned is authorized to draw. To the extent necessary, a petition for extension of time under 37 C.F.R. §1.136 is hereby made, the fee for which should also be charged to this Deposit Account.

Dated: July 27, 2010

Respectfully submitted,

Electronic signature: /Michael B. Stewart/
Michael B. Stewart

Registration No.: 36,018
RADER, FISHMAN & GRAUER PLLC
Correspondence Customer Number: 10291
Attorney for Applicant

Attachments

Application No. 10/553,682
Amendment in Response to Non-Final
Office Action dated July 27, 2010
Reply to Office Action of January 27, 2010

Docket No.: 66221-0053

REPLACEMENT SHEET